

REMARKS

Applicants have amended their claims herein to better clarify the invention. Claims 1, 7, and 13, are amended herein to recite, *inter alia*, a plurality of information storage and retrieval systems, wherein each information storage and retrieval system comprises a plurality of I/O adapters, two data caches interconnected to said plurality of I/O adapters, a device adapter interconnected to said plurality of I/O adapters and to said data caches, and at least two hard disk arrays interconnected with the device adapter. Support can be found in the Specification on Page 4 at Line 3 through Page 6 at Line 13, and in FIG. 1 at elements 102 through 120 (plurality of I/O adapters, elements 134 and 144 (two data caches interconnected to the plurality of I/O adapters), elements 165 and 175 (device adapter interconnected to the plurality of I/O adapters and data caches), and in FIG. 3 at elements 302/303 and 332/333 and 362/363 (plurality of I/O adapters, elements 305a/305b and 335a/335b and 365a/365b (two data caches interconnected to the plurality of I/O adapters), elements 306, 336, and 366 (device adapter interconnected to the plurality of I/O adapters and to the data caches, and elements 307/308 and 337/338 and 367/368 (two hard disk arrays interconnected to the device adapter).

Claims 1, 7, and 13, are amended herein to recite, *inter alia*, that two active controllers are disposed in each of the information storage and retrieval systems. Support can be found in the Specification on Page 13 at Lines 2-7.

Claims 1, 7, and 13, are amended herein to recite, *inter alia*, providing by each of the plurality of controllers, using peer to peer copy operations, information from an information storage medium disposed in an information storage and retrieval system to an information storage medium disposed in an interconnected remote storage location. Support can be found

in the Specification on Page 9 at Line 17 through Page 10 at Line 19.

No new matter has been entered. Reexamination and reconsideration of the application, as amended, is respectfully requested.

Claims 1-18 stand rejected under 35 USC 103(a) as being unpatentable over Beal et al. (U.S. Pat. No. 5,155,845) in view of Tan et al (U.S. Pub. No. 2003/0126347).

In *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 167 L. Ed. 2d 705 (2007), the Supreme Court held that the obviousness analysis of *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966), controls an obviousness inquiry. The *Graham* obviousness factors include “the scope and content of the prior art” and the “differences between the prior art and the claims”. *KSR*, 127 S. Ct. at 1734 (quoting *Graham*, 383 U.S. at 17-18).

Neither Beal et al. nor Tan et al., singly or in combination, teach or suggest an apparatus and/or method to coordinate interconnected information storage and retrieval systems, wherein each information storage and retrieval system comprises a plurality of I/O adapters, two data caches interconnected to said plurality of I/O adapters, a device adapter interconnected to said plurality of I/O adapters and to said data caches, and at least two hard disk arrays interconnected with said device adapter, as recited in claims 1, 7, and 13, as amended herein.

Moreover, neither Beal et al. nor Tan et al., singly or in combination, teach an information storage system further comprising two active controllers, as recited in claims 1, 7, and 13, as amended herein. In addition, neither Beal et al. nor Tan et al., singly or in combination, teach providing by each of the plurality of controllers, using peer to peer copy operations, information from an information storage medium disposed in an information

storage and retrieval system to an information storage medium disposed in an interconnected remote storage location, , as recited in claims 1, 7, and 13, as amended herein.

In view of "the scope and content of the prior art," in combination with the "differences between the prior art and the claims, Applicants respectfully submit that under *KSR* claims 1, 7, and 13, as amended herein, are patentable over the combined teachings of Beal et al. and Tan et al.

Tan et al. actually teaches away from claims 1, 7, and 13, as amended herein. Tan et al. teach a data array system comprising an active controller 130 and a standby controller 150. Tan et al. further teach that "the role of the controllers 130, 150 may reverse during operations." [0028]. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); *see KSR*, 127 S. Ct. at 1739-40 (explaining that when the prior art teaches away from a combination, that combination is more likely to be nonobvious).

One of ordinary skill in the art following the teachings of Tan et al. would find motivation to use a data array system comprising an active controller and a standby controller, wherein the functions of those controllers may reverse during operations. One of ordinary skill in the art would find no motivation, however, to use and apparatus and method to coordinate multiple data storage and retrieval systems comprises two active controllers, as recited in claims 1, 7, and 13, as amended herein.

Claims 2-6, as amended herein, depend, directly or indirectly, from claim 1, as amended

herein. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." MPEP 2143.03; *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed.Cir. 1988). Applicants respectfully submit that claims 2-6, as amended herein, are patentable over the teachings of Beal et al. and Tan et al.

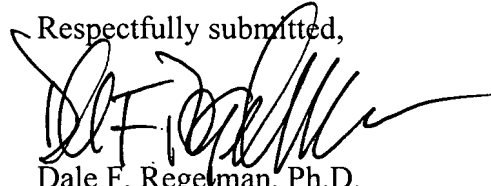
Claims 8-12, as amended herein, depend from claim 7, as amended herein. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." MPEP 2143.03; *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed.Cir. 1988). Applicants respectfully submit that claims 8-12, as amended herein, are patentable over the teachings of Beal et al. and Tan et al.

Claims 14-18, as amended herein, depend from claim 13, as amended herein. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." MPEP 2143.03; *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed.Cir. 1988). Applicants respectfully submit that claims 14-18, as amended herein, are patentable over the teachings of Beal et al. and Tan et al.

Having dealt with all of the outstanding objections and/or rejections of the claims, Applicants submit that the application as amended is in condition for allowance, and an

allowance at an early date is respectfully solicited. In the event there are any fee deficiencies or additional fees are payable, please charge them, or credit an overpayment, to our Deposit Account No. 502262.

Respectfully submitted,



Dale F. Regelman, Ph.D.

Attorney for Applicants

Reg. No. 45,625

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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: MAIL STOP RCE, Commissioner of Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on October 31, 2007 at Tucson, Arizona.

By: 

CHANDLER & UDALL, LLP
4801 E. BROADWAY BLVD
Tucson, Arizona 85711

TEL 520-741-7636
FAX 520-746-9114